

now be held of specific value, as no intermediate specimens are forthcoming." It remained for M. Johan Beetz to point out the fact that there is an intermediate form between *dresseri* and *borealis*. Instead of this form, being a new species, as M. Beetz suggests, it seems to me, however, that his important discovery shows that *dresseri* intergrades with *borealis*, and that like *borealis* it should be classed as a subspecies of *mollissima*. If this view is accepted this Eider should be reduced from its specific station and be listed as *Somateria mollissima dresseri*. A study of the breeding Eiders about Hamilton Inlet, the supposed dividing line between the ranges of *borealis* on the north and *dresseri* on the south, would be of interest.—C. W. T.

NOTES ON THE BIRDS OF THE ELK MOUNTAIN REGION, GUNNISON COUNTY, COLORADO.

BY EDWARD R. WARREN.

Plates XVI-XVIII.

THE region covered by the following notes is the northwestern portion of Gunnison County, which is in the western third of the State, about midway between the north and south boundaries. The county is of irregular shape, and the easterly boundary is the Continental Divide, with several summits attaining an elevation of more than 14,000 feet above sea level. The Elk Mountain Range branches from the Divide with a somewhat northwesterly trend, and forms the northerly boundary as far as Snow Mass Peak, whose elevation is 13,970 feet, and whence the line runs due west over an exceedingly rough country, as the writer can testify from personal acquaintance, to the Huntsman's Hills, a comparatively low divide; thence northwesterly along the Hills to intersect the summit of the Grand Mesa, which also forms a part of the boundary for a short distance. The west boundary of the County is the



1. GALENA PARK, 10,300 FT. SNOW MASS PEAK, RIGHT CENTER.
2. HILLSIDE RANCH AND LAKE.

meridian 107°-30' West. The region within this area comprises the greater portion of the Elk Mountain Group or Range, most of whose summits are over 12,000 feet in altitude, and from that to nearly 14,000; in fact Maroon Peak is 14,126 feet.

When one is on a summit like that of Mt. Emmons, which, though comparatively low — but a little over 12,000 feet, gives an extended view in all directions, he is impressed by the panorama spread before him, of mountains everywhere, from the south around to the southeast, only the southeasterly arc of the circle has but a few high peaks. The rest is a mass of mountains and all is a region of grand and wonderful scenery, if one has the time and facilities for seeing it, for much of it must be explored on horseback or afoot if the traveler wishes to get to some of the best things.

The general elevation of the region will be understood if the reader is told that Crested Butte is 8,900 feet, Marble 7,950 feet, and the junction of the Muddy and Anthracite Creeks, which form the North Fork of the Gunnison, about 6,500 feet. Most of the country which the notes refer to is above 9,000 feet. The greater part of the region belongs to the Gunnison River watershed, though Rock Creek or Crystal River, in the northern part, drains into the Grand River. With the exception of the agricultural and coal lands most of the area is in the Gunnison and Sopris National Forests.

Most of the region under discussion has rather long winters, with deep snows, and cool summers, sometimes with considerable rain. The mercury often goes well below zero in winter, though the dry atmosphere makes it more bearable than it might otherwise be, at least out of doors. With the deep winter snows, and high elevations, the snow often remains on the upper parts of the mountains well into the summer, some deep banks often persisting until the snows of the next autumn fall.

The life zones of most of the region treated of in this paper are the Canadian, Hudsonian, and Arctic-Alpine. There is a little Transition south of Crested Butte, and the country on lower Muddy and Anthracite Creeks and that about Marble, is also Transition. Timberline is at about 12,000 feet, and the Hudsonian covers about 2,000 feet below this. The variety of trees in the Canadian and

Hudsonian zones is quite limited, comprising Lodge-pole Pine, Douglas's Fir, Engelmann's Spruce, Balsam, Aspen, and a few species of Willows. Wild flowers of many species grow in profusion, making of the open parts of the mountainsides, even above timberline, veritable flower gardens. Engelmann's Spruce is the tree which reaches the highest limit, and the stunted trees at timberline are this species. My notes bearing on the breeding ranges of the various species of birds are rather meagre, but such as they are go to show that most of the land birds occupy parts at least of both the Hudsonian and Canadian when nesting. However, I have never seen the Mourning Dove, Magpie, Long-crested Jay, Western Tanager and Yellow Warbler nesting above the Canadian and most of these are restricted to the lower part of that zone. The Rocky Mountain Jay, and presumably the Clarke's Nutcracker, breed only in the Hudsonian, while the Ptarmigan, Brown-capped Rosy Finch and Pipit breed in the Arctic-Alpine.

While a great portion of the years from the spring of 1882 until the autumn of 1902 were spent in the region, sometimes the summer only, and sometimes the entire year, I did but little ornithological work during most of that period, and kept no notes until the last four years of that time, and then not as systematically as might have been desirable. But little bird collecting was done, mammals and photography occupying most of the time I could give from other pursuits to such work. Since 1902 I have made four visits to the region, the last in June, 1915, when I spent practically the whole of that month there, devoting most of my time to bird study, with the result of filling in many gaps in my data, and yet leaving much to be learned. The broken character of the country renders it difficult to make anything like a thorough, detailed study of its bird life, unless one is able to devote practically his whole time for several seasons to the work. These notes make no pretense of being complete; I have worked them up as best I could, knowing it to be somewhat unlikely that I would do much more there myself and thinking they would at least serve as a basis for future work on the part of others.

The area covered may be roughly described as that portion of Gunnison County north of a line 8 miles south of Crested Butte, between East Brush and Cement Creeks on the east, and Muddy

Creek on the west. This does not imply that I have worked that whole region, but I have notes on something from almost every portion of it, and much of my data is applicable to the whole, as a matter of fact to the whole of the northern part of the County. I have been somewhat doubtful as to the advisability of including the region about Muddy Creek, or "the Muddy," as it is colloquially termed, but I spent nearly the whole of one summer, and portions of the two succeeding summers there, surveying, and gained some interesting information in spite of working strenuously, which it seems unwise not to use. Perhaps if I had not worked so strenuously at surveying I might have made more bird notes, but when the surveying notes had been written up after supper in camp, I was usually ready for bed, and too tired to think about anything else.

In the last thirty odd years there has been considerable change in the region. The years 1880-81 witnessed a big mining boom in Gunnison County, and the Elk Mountains had their share of the mushroom prosperity which accompanies such things. Irwin, Gothic, and Scofield were quite good-sized places, the former with several thousand people. In 1882, when I first went there, the boom began to fall off, in fact there was no boom. Fewer people came in, and these dwindled away year by year, until now these towns are nearly deserted, and most of the buildings have been taken down for the lumber in them and carried away. Crested Butte was also settled in the boom days, but it had coal mines to support it, these were an inducement for the railroad to come, and for many years large shipments of coal and coke were made, and are still going on. In those early days practically everything was dependent on the mining industry, both coal and metal, and there were but few ranches. Now most of the desirable land in the East and Slate River Valleys is occupied, the principal, one may say only, crop, being hay.

With the lapse of time there has also been a change in the character of the population. Once the miners were practically all English-speaking, if not American-born. When the coal mines were opened many coal miners of British birth came, some from eastern states, others directly from the "old country." It was not long, however, before southeastern Europeans, commonly called Austrians, as

well as Italians, began to arrive, and now they are a noticeable element of the population of Crested Butte. As elsewhere in the United States, these foreigners are exceedingly destructive to bird life. I have made mention of specific cases under the species involved, but wish here to make mention of a condition which is perhaps new or unusual.

As everyone knows, Colorado, in the latter part of 1913 and the earlier months of 1914 was afflicted with a very serious coal miner's strike. While the disturbances were all in the southern Colorado coal fields, the miners at Crested Butte struck to keep their brethren company. Some small mines accepted the union terms and kept on working, but not employing many men. The Colorado Fuel & Iron Company's mine, employing some 300 men, remained closed and the men were out of work. I should state here that the company was getting ready to reopen the mine and resume operations in the summer of 1915, but that is something which takes time after such a long shutdown. These idle men, largely of the nationalities previously mentioned, being out of work and not earning any money, though it is safe to say there was not one who had not money laid by, took their guns and scoured the whole country killing for the pot anything which had a morsel of meat on it. They are tireless walkers and go everywhere so that nothing escaped them. This last June I noticed an entire absence of woodchucks in places where they used to be plentiful. No doubt exterminated by the miners. I think it likely, though I have no positive information to that effect, that this condition obtains all through the districts affected by the strike. It is certainly to be hoped that the Federal migratory bird law will be held constitutional by the United States Supreme Court, and that it will be vigorously enforced all through these coal mining districts where there is such a large population absolutely without any regard for bird life. The State deputy game wardens seem to take little interest in enforcing the law for the protection of insectivorous birds, though we have the excellent A. O. U. model law on our statute books.

A few words descriptive of the Hillside Ranch, which is the property of friends of the writer, often referred to in the succeeding pages, may not be amiss. The place is located at the base of



1. NORTHWARD FROM MT. EMMONS.

2. PART OF CRESTED BUTTE MT. FROM MT. EMMONS. HILLSIDE LAKE AT
BASE OF MOUNTAIN ON THE RIGHT.

Crested Butte Mountain, a little over two miles due east of the town of the same name, and has an elevation of about 9,200 feet. On the ranch is a lake of some thirty acres, partly natural and partly artificial, having been formed by enlarging by means of a dam a small pond which was fed by springs. This is the lake and ranch referred to as "Decker's" in Sclater's History of the Birds of Colorado, but as the place is now known as Hillside Ranch, I have used that name in these notes. Most of the land is somewhat rolling and hilly, and was covered with sage brush before clearing. On the mountainsides immediately above are Douglas's Spruces and Lodge-pole Pines. About the lake shores and along the outlet from the lake, are many willows, as also on the lower part of the ranch where are a number of streamlets coming from springs on the hillside just above. All these willows are good haunts for birds and many nest among them. In the Douglas's Firs above the lake I found an Audubon's Warbler breeding. Robins nested everywhere about the place. In the open ground Vesper Sparrows and Green-tailed Towhees nested in the grass and about the sage brush. Some water birds come to the lake, especially in migration, but most of my records of these are very unsatisfactory.

My acknowledgments are due to the U. S. Biological Survey for the identification of certain birds, the insects collected on the snow on Mt. Emmons, and the contents of the stomachs of two Rosy Finches.

It should perhaps be stated that, unless otherwise mentioned, all spring and autumn dates refer to Crested Butte or the region about there.

Colymbus nigricollis californicus. EARED GREBE. "HELL-DIVER."—A common migrant, especially in spring. As many as 21 have been seen in a flock on Hillside Lake. I examined the stomachs of several killed on this lake in the spring of 1899; I was desirous of ascertaining if they were eating trout fry, of which there were many in the lake, but I found no indications that they were destroying the fish. What was in the stomachs was so much digested as to be practically unrecognizable, but I think it was largely crustacea and aquatic insects, of which there are many in the lake.

Podilymbus podiceps. PIED-BILLED GREBE.—I have but one record of this species, a bird seen on Nichols's Lake in October, 1899.

Mergus americanus. AMERICAN MERGANSER.—Two were shot on

Hillside Lake, October 28, 1899. When on Muddy Creek, in July, 1901, Adams and Hooker spoke of seeing a "Wood Duck" with a brood of young swimming in the creek. From the description they gave of the bird it appeared to be this species. They called it Wood Duck because it nested in trees.

Anas platyrhynchos. MALLARD.—Fairly common in migration about Crested Butte. Seen as late as October 14, 1905. In 1901 and 1902 the species seemed common on the numerous little ponds found in the high ground between Muddy Creek and Ragged Mountain, and were no doubt breeding there. November 2, 1901, three were seen on Muddy Creek, not far below the Botsford Ranch.

Nettion carolinense. GREEN-WINGED TEAL.—Not uncommon in migration about Crested Butte. Carl Bergman told me that a teal of some species raised a brood of young at the Hillside Lake in 1914, but he could not say if it was the present or the following species.

Querquedula discors. BLUE-WINGED TEAL.—Probably not uncommon in migration. I have one record for Marble, a freshly killed bird which I found dead in Yule Creek, October 4, 1902.

Spatula clypeata. SPOONBILL. SHOVELLER.—Has been taken at Hillside Lake.

Marila americana. REDHEAD.—I saw three which were killed on Hillside Lake, October 18, 1902.

Erismatura jamaicensis. RUDDY DUCK.—One was killed on Hillside Lake, May 31, 1899.

Botaurus lentiginosus. BITTERN.—I saw one which had been killed at Green Lake, above Crested Butte, October 22, 1900.

Nycticorax nycticorax naevius. BLACK-CROWNED NIGHT HERON.—One was killed near Crested Butte some time in May, 1915. I saw the mounted specimen. No one there had ever seen such a bird.

Grus mexicana. SANDHILL CRANE.—In 1901, '02 and '03 there were a few Cranes about the little ponds near Muddy Creek, already mentioned in speaking of the Mallard. June 5, 1903, C. F. Frey and myself found a nest with two eggs. A full description of this was published in the Condor, VI, No. 2, March, 1904, p. 39. The nest was on one of several tussocks of grass which lay more or less in a line on a mudbank or island, and made of swamp grass, irregular in shape, and about two feet across, a mere platform. On this lay the two large eggs, looking, as Frey said, like turkey eggs. While I was taking pictures of the nest on the seventh the parent birds, and the female (I suppose) especially, kept flying about, uttering their outlandish notes.

Porzana carolina. SORA.—One seen at Hillside Lake, September 23, 1900.

Fulica americana. COOT.—Common migrant about Crested Butte. I saw a "Mudhen" on Hillside Lake, June 20, 1915, and the people at the ranch had noticed it a few days previously.

Catoptrophorus semipalmatus inornatus. WESTERN WILLET.—

May 22, 1899, a flock of eight or ten birds came to Hillside Lake, of which four were secured.

Actitis macularia. SPOTTED SANDPIPER.— A common summer resident along the streams, both in the Crested Butte region and on Muddy Creek.

Oxyechus vociferus. KILLDEER.— A common summer resident in suitable places in the region about Crested Butte; my notes make no mention of it on Muddy Creek, though it should be there. June 21, 1900, young, apparently a day or two old, were seen with the parent on the East River road, near Brush Creek.

Dendragapus obscurus obscurus. DUSKY GROUSE.— A common resident, though much reduced in numbers during the past twenty years by persistent hunting, especially by the Austrians and Italians, most of whom have no regard for close seasons or game laws, and no scruples about killing a bird on the nest or with a brood of newly hatched young. It is found everywhere from the upper limit of heavy green timber down. June 20, 1900, a nest with seven eggs was found near the Jarvis Ranch on East River. June 5, 1902, a nest and four eggs were found near Deep Creek, at the base of Ragged Mountain. It was under a big log, just a depression with grass above it and lined with a few feathers. There must be considerable irregularity about the nesting of this species for one often finds broods of young of quite different ages at the same time in the same locality.

Lagopus leucurus leucurus. WHITE-TAILED PTARMIGAN.— The Ptarmigan is a fairly common resident living above timberline in the summer, descending to the valleys in winter when driven down by the deep snow. During the last four years of my residence at Crested Butte, from 1899 to 1902, I paid much attention to these birds, looking for them, studying and photographing them at every opportunity and at all seasons. In summer they are apt to be rather difficult to find as they are scattered about the mountain tops, often singly, or females with young, though one may run across a flock of male birds who are enjoying bachelor life while their wives attend to the family duties. The birds are often, one may say usually, remarkably tame. I have known a female to squat down on the ground and the young to get under her and to pay no attention whatever to me when I placed a camera on a rock close by, focussed, adjusted the shutter, and made several exposures. I have never been so fortunate as to find a nest, though I have spent considerable time in the search for one, but it is one of those things one finds by stumbling upon them rather than by search. In late summer the birds often go to some particular place for water once a day, usually the middle or latter part of the forenoon. This is when the last remnants of the preceding winter's snow have disappeared, for they will eat snow readily enough, and at extreme high altitudes springs are not at all common. The change to the winter plumage begins after the middle of September, and is nearly complete the last of October, and fully so the first week in November. The reverse change

begins in May, toward the latter part of the month. I cannot say just when they descend to the valleys in fall; no doubt it depends much upon the weather. I have seen them at timberline November 9, and at the same altitude early in May. In winter the Ptarmigan seem to prefer to frequent the creek bottoms which are overgrown with willows on whose buds they largely feed. In such places their tracks can be seen going from one clump of bushes to another, looking much as if a flock of chickens had been wandering about. In summer they seem to eat anything, insects, plant buds and seeds are all acceptable.

Centocercus urophasianus. SAGE GROUSE.—Rare in the region, coming but little farther north up East River than Jack's Cabin.

Columba fasciata fasciata. BAND-TAILED PIGEON.—There used to be a few Band-tails on the North Fork of the Gunnison, and on Muddy and Anthracite Creeks, also on the lower west slope of Ragged Mountain. I saw two May 27, 1901, a short distance west of the base of that mountain, while surveying, and had an excellent opportunity to observe them with the transit telescope.

Zenaidura macroura marginella. WESTERN MOURNING DOVE.—A common summer resident in suitable country up to 9,500 feet. In June, 1915, during four weeks of field work I saw this species but once, though I used to see it commonly in previous years in the very same localities where I was working this year. I ascribe this scarcity to the cause mentioned in the introduction, their slaughter by foreigners.

My earliest date is May 14, 1900, at Hillside Ranch, and latest October 9, 1910, at the same place, when one was seen. A nest with two eggs was found on Ferris Creek, June 17, 1902, and one with two half-grown young at Killian's ranch July 24, 1902, both of these nests being on the ground.

Circus hudsonius. MARSH HAWK.—Common, especially in autumn, when it is often seen hunting over the meadows; I am not sure if it breeds. Seen as late as October 14, 1905; one seen at Hillside Ranch, June 26, 1903.

Accipiter velox. SHARP-SHINNED HAWK.—One seen at Hillside Ranch, June 9, 1915.

Buteo borealis calurus. WESTERN REDTAIL.—Common summer resident. Earliest date of arrival April 1, 1901; latest autumn date October 19, 1905. This useful large hawk seems well distributed over the region, from the lower portions up to the highest mountains; it is especially abundant in autumn. In May, 1901, in the country between Muddy Creek and Ragged Mountain were several nests which I thought belonged to this species, though but one was actually occupied, and I saw a hawk perched on another nest, which, however, showed no signs of recent use. This was in a scrub oak about 12 feet from the ground, a mere platform of twigs. The occupied nest was in a dead Quaking Aspen, first noted May 24. Rifle shots fired at the nest failed to drive the sitting bird off, though some of the bullets tore through the twigs beneath her. The tree was cut down June 30. The nest contained a half-grown young bird, and there had been another which had died when very young, and whose dried-up body was in the nest.

The Italian miners, and possibly also the Austrians, eat every hawk and owl they can kill, and this species suffers with the rest. In the autumn of 1910, beside a cabin on the slope of Crested Mountain which had been occupied by some Italian timber cutters, I found a good sized heap of hawk and owl feathers, representing quite a number of birds which had found their way to the pot.

Buteo swainsoni. SWAINSON'S HAWK.—My only record for the region is one which I killed on Slate River, above Crested Butte, September 1, 1900.

Archibuteo ferrugineus. FERRUGINOUS ROUGHLEG.—Seen occasionally; my notes all refer to fall specimens. October 13, 1900, near Crested Butte, is my latest date. One seen at Scofield, 10,150 feet, October 12, 1902, in a snowstorm.

Aquila chrysaetos. GOLDEN EAGLE.—Not uncommon. I do not positively know of it breeding, but it was seen June 3, 1902, on Muddy Creek, and in Washington Gulch, July 22 of same year. It is also about in winter, at least to some extent, for one was caught in a coyote trap set near a dead horse December 13, 1901. It was liberated, and it or another was caught a few days later.

Falco sparverius sparverius. SPARROW HAWK.—A common summer resident. April 16, 1901, is my earliest date, and October 13, 1901, my latest. Rather frequently seen chasing larger hawks, such as the Redtail. I have seen two tormenting one of these, and once saw one Sparrow Hawk after three Redtails.

Asio wilsonianus. LONG-EARED OWL.—I have only two records of this species: one seen on the Gothic road, two miles from Crested Butte, September 7, 1900, and one found dead near Green Lake, September 20, 1900.

Asio flammeus. SHORT-EARED OWL.—I have never seen this species about Crested Butte, but have seen it on Muddy Creek. In June, 1903, one was in a dense thicket while my assistant was setting a corner there, and kept hanging about very close. I have some recollection of having seen it at other times, but no notes.

Bubo virginianus pallescens. WESTERN HORNED OWL.—Probably a common resident. I have seen it at Marble, Crested Butte, and on Muddy Creek.

Glaucidium gnoma pinicola. ROCKY MOUNTAIN PYGMY OWL.—One was seen on the high mesa west of Muddy Creek, July 22, 1901. I have never seen or heard of it in the Crested Butte region.

Ceryle alcyon. BELTED KINGFISHER.—Not uncommon along the streams in summer; probably breeds, in fact one was seen to enter a hole in a high bank above Muddy Creek, at Adams's ranch, July 15, 1901. September 6, 1902, is the latest date I have, at Hillside Lake.

Dryobates villosus monticola. ROCKY MOUNTAIN HAIRY WOODPECKER.—A not uncommon resident; have seen it at all seasons of the year; found up to at least 11,000 feet.

Dryobates pubescens homorus. BATCHELDER'S WOODPECKER.— Probably rare; I have but one record, a bird seen at the Hillside Ranch, January 12, 1909.

Sphyrapicus varius nuchalis. RED-NAPED SAPSUCKER.— A common summer resident, going to above 10,000 feet. Its favorite nesting sites appear to be dead aspens. June 20, 1902, a brood of young was seen flying about Hillside Ranch. A female collected June 6, 1915, at about 9,500 feet, was evidently breeding, its breast and abdomen being bare of feathers. July 8, 1900, while watching a flycatcher's nest, I saw a Red-naped Sapsucker, and possibly two, though I was not sure as to that, flying back and forth, and noticed that it went into a particular bunch of willows farther along the side-hill from where I was. When I got through with the flycatchers I went there and the Sapsucker flew out. Looking about I saw quite a number of the willow branches which had the bark perforated in circles and the bird was evidently going there after sap.

I have never seen Williamson's Sapsucker in the region, though it should occur there, and no doubt some other observer will find it.

Asyndesmus lewisi. LEWIS'S WOODPECKER.— Not uncommon in summer on Muddy Creek.

Colaptes cafer collaris. RED-SHAFTED FLICKER.— Moderately common summer resident all over the region; I have seen it as high as the timber extends, up to say 11,500 feet. My earliest date is April 13, 1901, at Crested Butte; latest September 28, 1910, on Brush Creek.

Chordeiles virginianus henryi. WESTERN NIGHTHAWK.— A common summer resident near Crested Butte, frequenting the open ground, especially in East and Slate River valleys. I do not think it breeds much above 9,000 feet in this region, for there is not much suitable country above that elevation, though it may wander much higher when hunting. July 9, 1903, two eggs were found at Pogna's ranch, East River; a dog flushed the bird and stepped on one of the eggs, which did not appear to have been much incubated. July 26, 1903, a ranchman showed me at his place on East River two young hatched within the preceding week. These were covered with a light grayish buff down, somewhat speckled, and were almost invisible on the ground. Two days later the only bird found showed considerable growth, and the wing quills showed a little. On cloudy days the Nighthawks are often seen hawking over the streams, and will fly so close to fishermen that they might easily be touched with a rod. In June 1915, they came about Hillside Lake in the evenings, evidently after the mosquitos and other insects which were abundant there.

Selasphorus platycercus. BROAD-TAILED HUMMINGBIRD.— Common summer resident. I saw a nest at Adams's ranch on Muddy Creek, June 13, 1901, with two eggs. It was saddled on a dead limb on a small cottonwood about five feet above ground, and was largely covered with lichens. The bird sat very closely, allowing me to come within a foot. June 23, there were two young in the nest, and July first they were nearly ready to fly. A Hummingbird came into the kitchen at Adams's; I caught

it and induced it to take some syrup; then it flew from my hand and went up a hole in the ceiling where I could not get at it. Coming down again an hour or two later I captured it again. It was either exhausted or frightened so that it seemed at the point of death, and I laid it outside on a block in the sun, where it soon revived and flew away. Perhaps it was playing possum.

August 3, 1902, I was about some clumps of willows at Hillside Ranch, when I saw a Hummingbird, and then more, four altogether, I think. A male was most in evidence; I was quite close to him, three feet, as he perched in the willow. His throat gave a fine display of color, in some lights almost black, again flashing lilac red, almost ruby. I thought at first they had taken shelter in those thick bushes from a shower which had just passed, but I saw at least one hover beside a twig and apparently pick up something from the bark; bees and flies were crawling over the bark, seemingly after the same thing; the bark of many of the twigs was perforated and girdled by sapsuckers; indeed, I had seen at least one fly away from there. Though I looked closely I could see nothing in the way of sap.

In June, 1915, Hummingbirds were seen several times at Hillside Ranch, about the catkins on the willows. The first half of the month these seemed to be their favorite feeding grounds; later I saw them about Larkspur and other flowers. I succeeded in taking several fairly good photographs of one bird at the willows. Sometimes this bird fed while poised on the wing, and again it would perch on a twig by the catkin and take what it wished.

Selasphorus rufus. RUFIOUS HUMMINGBIRD.—Mr. T. A. Boughton of Marble told me of a Hummingbird which visited the flowers in his garden in 1914, and which from his description could have been nothing but a Rufous Hummer.

Tyrannus verticalis. WESTERN KINGBIRD.—Seen on Muddy Creek, but does not reach as high an altitude as that of Crested Butte. June 12, 1901, a pair were building a nest near my camp on the mesa west of Muddy Creek. It was on a partly burnt dead aspen, on a sort of shelf or niche on one side, about 25 feet above the ground. The nest was built and the eggs were laid during the time I was there, from the 12th to the 20th, at which latter date the bird was sitting.

Sayornis saya. SAY'S PHEBE.—My only record is one seen about the corrals at Hillside Ranch, August 6, 1903.

Nuttallornis borealis. OLIVE-SIDED FLYCATCHER.—Summer resident, but I have little evidence on which to base a statement as to its abundance. I failed to see it in 1915 in many localities which I would consider well suited to it. One was seen at Pittsburgh, 9,500 feet, and one or two near the Hillside Ranch, possibly the same individual seen on different occasions.

Myiochanes richardsoni richardsoni. WESTERN WOOD PEEWEE.—I did not, for some reason, note this species near Crested Butte until 1915, when on June 8 I took one on the south slope of Crested Butte Mountain, at about 9,500 feet; this was a male and its breast was bare of feathers as

if incubating. A few days later I saw one or more at Hillside Ranch, and on June 15 a female was collected on the ridge north of Crested Butte Mountain among aspens. June 23 and 24 I saw the species at Marble. I should consider it a not uncommon summer resident and breeder, going at least as high as 9,500 feet.

June 28, 1901, I found a nest near my camp north of Deep Creek in the Muddy country; it was in an aspen tree about seven feet above ground, saddled on a small branch, and was constructed from the fine fibrous bark from dead aspens; it contained 3 eggs at the time. July 13 the young were showing pin feathers.

Empidonax wrighti. WRIGHT'S FLYCATCHER.—Summer resident; appears to be common to at least 9,500 feet. In 1900 I found three nests of this species, one at Hillside Ranch, one on the Irwin road west of Crested Butte, and one by the Gothic road not far from Gothic. Each of these nests contained three eggs. The first was found June 17, that near Gothic June 29, and the other July 2. That at Hillside was observed regularly, and the following data noted: June 24, eggs still unhatched; July 1, 3 young; July 8, young pretty well feathered and very lively; they were decidedly yellow below. The parent came to nest to feed young while I was close by; July 15, nest deserted.

At the nest on the Irwin road the young were just hatching July 9; on 19th were getting well feathered; July 23 I found the nest destroyed and the young gone, work of a cat, I suspect.

In 1915 this species was noted several times; one was collected at about 9,500 feet on the northwest slope of Crested Butte Mountain, June 15. June 10 I discovered an empty nest at Hillside Ranch, which at the time I supposed to be a MacGillivray's Warbler's, though the height from the ground, 7 feet, was quite unusual for that species, but a pair of the Warblers were about the willow thicket, evidently having a nest there, and I saw the female flush from so close to the nest that I thought she came from it. When I found the nest to be empty I at once left it without any further careful examination, not wishing to chance causing the bird to desert the nest. On the sixteenth I thought the set of eggs should be complete, so went to the nest again. The Warblers were about as before, but when I climbed to the nest and found two pure white eggs instead of the spotted ones I had expected I saw my error and after examining the nest decided it was a Flycatcher's. That was in the morning. In the afternoon as I passed by a bird was on the nest, but so much above me and in such a position that I could not see much more than the top of her head and a whitish eye ring; she might very well have been a female MacGillivray's with the view I then obtained. The morning of the 18th she was on the nest again, sitting very close, even staying on when I cut twigs close beside the nest which interfered with photographing. The nest then contained four fresh eggs. The nest, eggs, and female were collected, and are now in the Colorado College collection. The nest is constructed almost entirely of bark fibre, lined with a little hair, soft vegetable material, and a



1. NEST OF WRIGHT'S FLYCATCHER. 2. NEST OF MCGILLIVRAY'S WARBLER.

few feathers. I noted a few breast feathers from a Robin among the latter. The outside diameter of the nest was $3\frac{1}{2}$ inches; the inside 2 inches; the depth outside approximately 3 ins., being quite irregular; and inside $1\frac{5}{8}$ ins. It was in some rather large willows, built in a fork made by the trunk and a small branch.

Otocoris alpestris leucolæma. DESERT HORNED LARK.—A common summer resident, living in the open valley, and also above timberline on the grassy slopes. The time of arrival in the spring no doubt varies with the season and amount of snow. The winter of 1901–2 was rather a mild winter, with little snow and early spring, and February 24, 1902, a Horned Lark was seen by the roadside below the town, though the snow had not yet gone, and March 17 several were seen at the same place. The latest date I have recorded, September 23, 1902, I collected one at about timberline on the ridge above Elk Basin, and there was a good bit of snow there at that date. The following year I saw it in the same region the last of June, and on the thirtieth of that month I found a nest with four eggs on the slope at the head of Elk Basin. This nest was on the ground with practically no protection in the way of surrounding or overhanging vegetation. In 1915 the species did not seem to be as common as of old; possibly its habits of frequenting the roads and roadsides have made it an easy prey for the foreigners.

Pica pica hudsonia. MAGPIE.—Common resident and breeder. Nests mainly along streams, building largely in the willows, but also in the coniferous trees, and in the cottonwoods when there are any. Judging from the data at hand difference of altitude does not make much difference in the time of breeding. Thus at Crested Butte, 9,000 feet, I found newly hatched young May 27, 1900, and on West Muddy Creek, 7,000 feet, I found young of the same age May 28, 1902. The young at Crested Butte were observed closely, and were out of the nest in the branches at the age of four weeks, though as yet unable to fly, and when 5 weeks old could fly a little, and quite well at 6 weeks of age. On West Muddy Creek, June 20, 1903, young about four weeks old were found. I am doubtful if it breeds above 9,500 feet. The Magpie sometimes goes to timberline, one being seen at that elevation above Independence Basin, September 23, 1902. It is a nuisance in winter when one is trying to trap about animal carcasses as they are continually getting into the traps.

This is another of the species which I found to be rare about Crested Butte in 1915, and I saw very few during four weeks in June. I was told, however, that there were many about that spring; perhaps they also went into the pot with the other birds.

Cyanocitta stelleri diademata. LONG-CRESTED JAY.—Not uncommon; probably breeds as notes indicate its presence throughout the summer. I think it must go somewhat lower during the most severe portion of the winter as I have no records for that season. The latest is November 24 and 25, 1899, at the Keystone Mine, west of Crested Butte, 10,000 feet. One or two seen frequently about Hillside Ranch in June, 1915. In late

September, 1910, when camped on Middle Brush Creek at 9,750 feet, I saw a few about. Generally but one or two are seen at a time. On Muddy Creek the species is more common, as the altitude is lower. When at Adams's ranch in September, 1902, I saw these Jays carrying heads of grain from the shocks in the field and hiding them in trees. Several birds were constantly going back and forth on this errand.

Perisoreus canadensis capitalis. ROCKY MOUNTAIN JAY. CAMP BIRD.—A common resident of the higher altitudes, making its home for the most part in the heavy timber from 10,500 to 11,500 feet, but wandering lower in the fall and early winter, and a few occasionally winter at quite low altitudes about ranches and mines. It must breed before the snow is gone as I shot a young one, full fledged but not long from the nest, May 31, 1900, which would indicate that the eggs must be laid in April, when the snow is still deep at that altitude, and the nights, if not the days, cold. The "Camp Robber," as it is often called, often becomes very tame and familiar and will take food from the hand. In the fall of 1900 some were very tame at the "Twin Springs," on the south slope of Mt. Emmons, though no one was at that time living in the cabin there. They would take bread from my fingers, and one tried to steal a whole slice from my lunch which was on the ground close beside me, though I was dividing with them quite fairly. Like all their family they are great hands to carry away and hide food, and when fed a bird will usually eat a mouthful or two, take all it can hold in its bill, and fly off with it, presently returning to repeat the performance. Some, at least, of the adult birds moult in June, as I have seen them with short tails, or parts of the tail missing; the plumage of others was very ragged at that date. I have also seen birds in mid-September which had not yet completed the moult.

Corvus corax sinuatus. RAVEN.—Not common, occasionally seen. In 1885-6 there always used to be a few about the Augusta Mine at the head of Poverty Gulch, 12,500 feet, feeding on the refuse thrown out by the cook. C. F. Frey told me that Ravens bred in the cliffs on Anthracite Creek above the "Watson Ranch." Possibly the Ravens at the Augusta may have come from there as this mine is at the head of a branch of Anthracite Creek. In June, 1901, a number were seen near the trail between Anthracite and Muddy Creeks; a band of sheep was lambing there and a good many dead lambs were about.

Corvus brachyrhynchos brachyrhynchos. CROW.—Early in 1901 H. A. Decker saw several birds near Crested Butte which he was sure were Crows. He said they "cawed," and were not as large as Ravens, with which he was familiar. Confirmatory of this, October 27, 1905, I saw 6 or 8 birds a few miles north of Gunnison, or 20 miles south of Crested Butte, which I had no doubt were Crows.

Nucifraga columbiana. CLARKE'S NUTCRACKER.—Not common, at least about Crested Butte, though at Anderson's ranch, Marble, the last of September, 1900, a good many were coming about the house for scraps, and were quite tame. They seemed to rather bully the Camp Birds and

Long-crested Jays which were also about. My records for Crested Butte are few and scattering. I saw it at Hillside Ranch twice in June, 1915. On the tenth, while photographing an Audubon's Warbler's nest, two came around, and I think they would have robbed the nest when I left if I had not taken it with me. I am inclined to think the species is more common in the northern part of the region than the southern, though I know of no reason why this should be the case.

Molothrus ater ater. COWBIRD.—Apparently a rare summer resident. Seen at Pogna's ranch, 7 miles below Crested Butte, July 9, 1903. One seen at Marble, June 25, 1915.

Xanthocephalus xanthocephalus. YELLOW-HEADED BLACKBIRD.—Only a straggler at Crested Butte, and I have but two personal records, May 8 and September 22, 1900. I was told of one at Hillside Ranch in the spring of 1915. These were all males. A male was seen at Adam's ranch on Muddy Creek, June 14, 1903, and Adams spoke as if he had never seen it there before.

Agelaius phœniceus fortis. THICK-BILLED REDWING.—Not particularly common at Crested Butte, though there are always some about in summer. Earliest date is March 20, 1900; latest November 27, 1901. No doubt these dates vary much with the season. July 26, 1902, some young were seen just beginning to fly, presumably at Meridian Lake, as I was doing some surveying there at that date. There were some at Hillside Lake all through June, 1915, and on the fourth a nest with five fresh eggs was collected, built in some willows by the lake shore. On the Muddy I used to see these Blackbirds about the little ponds and marshy spots.

Sturnella neglecta. WESTERN MEADOWLARK.—Formerly a common summer resident and breeder in open ground. In 1915 Meadowlarks did not appear to be nearly as abundant as formerly, possibly for the reason previously mentioned in connection with other species. I have seen it up to about 9,500 feet. I have no early spring dates; seen as late as October 5, 1910. June 6, 1901, there was a nest at Hillside Ranch with 6 young; it was empty two days later; possibly the young were eaten by a snake.

Icterus bullocki. BULLOCK'S ORIOLE.—Seen at Adams's Ranch, Muddy Creek, May 19, 1901.

Euphagus cyanocephalus. BREWER'S BLACKBIRD.—Common summer resident and breeder. Seen as early as April 1, 1900, and as late as November 14, 1901, but the majority are gone by the middle of October. By the last of July they have gathered in large flocks and are numerous about the streets of Crested Butte. These Blackbirds were nesting in some spruce trees in the corral at Adams's ranch, and May 31, 1901, I found a nest with 5 eggs and the following day two nests with 6 eggs in each in nearby trees. June 15 a young bird not able to fly was found in the corral; possibly it had fallen from one of these nests. May 29, 1902, I found a nest with eggs in the same corral. In 1915 I discovered several nests with eggs in the willows along the shore of Hillside Lake. Two of these contained 5 eggs each; a set collected June 6 was heavily incubated and would

have hatched in a few days. The other set of five was found June 10, and I sometimes saw the female on the nest, but I think she eventually deserted it; the eggs were there up to June 29, but were gone on the afternoon of the 30th except for a few fragments of shell. Whenever I went along the lake shore several blackbirds of both sexes always kept me company, perching on the willows and uttering notes of distress. June 26 I saw the first young of the year out of the nest and one or two were seen almost daily after that.

In the town of Crested Butte I used to see partial albinos quite frequently; it is possible there may have been a family with a tendency toward albinism breeding thereabouts. Thus from my notebooks:

Sept. 7, 1900. This morning as I was coming up from breakfast saw a young Blackbird, or a female, with a white spot as big as my thumb in the middle of its back.

Sept. 10, 1900. Had a close view of what was probably the same albino seen on the 7th. It had other white feathers on it besides the patch on the back, including some under wings.

Sept. 22, 1900. One seen on street which had the outside edge of left wing white; should think the outer two or three primaries were white.

Oct. 7, 1901. A female about town with a number of white feathers scattered through its plumage, and it also had one leg crippled in some way.

Oct. 11, 1901. There are, as last year, a number of partially albino Blackbirds about, I have seen several.

If my memory serves me right, I saw others in other years, before I made any notes.

Pinicola enucleator montana. ROCKY MOUNTAIN PINE GROSBEEK. — I have seen this species on a few occasions, high up in the timber; twice near the Venango mine, Irwin, in July and October, and on Mt. Emmons. Late in September, 1910, I saw quite a number on Middel Brush Creek. These various records were at altitudes from 9,800 to nearly 11,000 feet.

Carpodacus cassini. CASSIN'S PURPLE FINCH. — I saw Cassin's Finches several times in June, 1915, at Hillside Ranch; in Rustler Gulch, at 10,000 feet; at Scofield, 10,150 feet; and near the Keystone Mine. September 24, 1910, I saw a flock of 25 or more on Middle Brush Creek, and secured one. From these data one may conclude that the species is at least a summer resident; whether it stays during the winter remains to be proven.

Loxia curvirostra minor. CROSSBILL. — Seen on Mt. Emmons, at 11,000 feet, September 21, 1901; also two seen near Scofield, October 13, 1900.

Leucosticte tephrocotis tephrocotis. GRAY-CROWNED ROSY FINCH. — Rosy Finches come about in large flocks in autumn and winter, rather erratically; I have seen them in the town of Crested Butte and at Hillside Ranch; some, if not a majority, of these winter birds are Gray-crowned. The winter of 1886-7 I spent at the Domingo Mine above Dark Cañon, between 11,000 and 12,000 feet, and pleasant days through the winter Rosy Finches used to come and feed on the refuse we threw out. I col-

lected none of these birds and kept no notes, but have a distinct recollection that I saw black individuals among them. A flock at Hillside Ranch, March 29, 1902, seemed to be all, or nearly all, Gray-crowned.

Leucosticte australis. BROWN-CAPPED ROSY FINCH.—A summer resident on the mountain tops, above timberline, and no doubt helps form the winter flocks. My summer notes often mention seeing it at high altitudes. July 11, 1902, one was seen on Mt. Emmons, hopping along on a snowbank picking at the snow; I could not tell if it was eating snow to quench its thirst or picking up food. September 23 of the same year a flock of 50 or more was seen on the same mountain; the birds lit quite close to me once, feeding on the grass and weed seeds. June 28, 1915, I saw several in Elk Basin at 11,500 feet, in a loose sort of flock. I shot two females, which I have no doubt were breeding as their breasts and abdomens were denuded of feathers and the ova in the ovaries were small. It may be that they had young as their crops were filled with small seeds which possibly were intended for food for their broods. I had no time to make any search for their nests. The crops and stomachs were sent to the Biological Survey for examination and I received the following report:

Stomach A. Over 2400 seeds of *Alsine* [Chickweed], 80%; about 80 of a Composite like *Bidens* (shelled), 15%; and a few of *Eragrostis*, *Polygonum* and unidentified trace; 2 *Corizus hyalinus*, 11 *Corizus indentatus*, a few *Balclutha impicta*, etc., 4%; 1 *Trypeta* sp., fragments of beetle, etc., trace, remains of several spiders, 1%.

Stomach B. About 40 seeds of Composite like *Bidens* and fragments, 50%; about 320 of *Alsine*, 35%; and 100 of *Eragrostis*, 10%; 3 *Corizus indentatus*, 1 fly and traces of beetle, 5%.

While the report refers to the *Alsine* as probably *media*, it is more likely to be *umbellata* or *baicalensis*, which are synonymous, and which species is found at high altitudes in Colorado, while the other is not, to the best of my information.

Acanthis linaria linaria. REDPOLL.—I have but two records for this species, a flock seen about the corral at Hillside Ranch, October 21, 1900, and a single bird at the same place, November 11 of the same year.

Spinus pinus. PINE SISKIN.—Probably a summer resident and breeder; I have seen the species in summer and autumn, and once in January, on the 31st, 1902. June 30, 1903, I saw two in the corral at Hillside Ranch, one of which seemed to be gathering hair for nesting material. In June, 1915, I saw a pair frequently at Hillside Ranch, and occasionally other individuals. It was also seen in and near Crested Butte.

Slater, in "A History of the Birds of Colorado," p. 345, records from my MS. notes the Arkansas Goldfinch, *Astragalinus p. psaltria*, as occurring at Crested Butte. The date of this record was June 5, 1900. I wish to state here that I am convinced that I was mistaken in my identification and that the birds seen were really Pine Siskins.

Passer domesticus. HOUSE SPARROW. ENGLISH SPARROW.—First seen at Crested Butte December 1, 1900. I was away all the winter, but

on my return in April, 1901, I saw the birds about the town. I do not think they have ever been especially abundant.

Poecetes gramineus confinis. WESTERN VESPER SPARROW.— A common summer resident and breeder. Arrives late in April or early in May; I have a note that I thought I saw one April 21, 1901. Remains until at least the middle of September, and I have a note that one was seen November 3, 1902, though this is extraordinarily late. Nests abundantly, laying from 3 to 5 eggs. The following notes give an idea of the nesting dates:

May 27, 1900, nest with 3 eggs at Hillside Ranch; hatched between June 3 and 8. Another nest with 4 young larger than those in the first was found on the 8th.

4 eggs, June 5, 1900, at Genright's ranch.

4 eggs, June 13, 1900, Hillside Ranch, still unhatched on 17th, and deserted on 24th, with one dead young bird in it, and 3 eggs.

June 15, 1902, 4 eggs, Hillside Ranch, low down in sage brush; 3 well grown young in this June 22.

4 eggs, June 19, 1902, near Crested Butte.

3 eggs, July 10, 1903, at Hillside Ranch; 2 young in this July 26, about 5 days old.

June 26, 1915, a nest with 4 well incubated eggs.

Nearly all these nests were on the ground, often under an *Artemisia* bush, but not infrequently under a tuft of grass or a cinquefoil bush. The above notes show that the nesting season may extend over a period of several weeks; very possibly late sets are second layings due to the destruction of the first set. The species was also common on Muddy Creek.

Zonotrichia leucophrys leucophrys. WHITE-CROWNED SPARROW.— Common summer resident. Arrives about the first week in May, and leaves the middle of October. I do not think it nests below 9,500 feet. The early part of June, 1915, White-crowns were common about Hillside Ranch, 9,200 feet, and I was also noting it elsewhere; the twelfth was the last date on which I saw it at the ranch, though I observed it often at somewhat higher elevations, and on the 17th collected a nest with four nearly fresh eggs 2 miles west of Crested Butte, at about 9,500 feet; this was built in a tuft of grass on the ground, in a damp spot near a little brook, with willow thickets all about. That same day many were seen on the hillside below the Keystone Mine, and I saw several old nests which I thought belonged to this species in the willows there. As there were exactly similar localities and conditions at the Hillside Ranch I came to the conclusion that they did not breed there because of the low elevation. June 23, 1915, I saw some in Galena Park, 10,300 feet, when the snow had been gone from there but a few days. I have also seen the species up to nearly 12,000 feet.

Spizella monticola ochracea. WESTERN TREE SPARROW.— Has been seen in autumn, when it is quite common about Crested Butte in late September and in October; also noted at Marble in October. No spring records.

Spizella passerina arizonæ. WESTERN CHIPPING SPARROW.— Rather common summer resident. I do not know what its range in altitude is, I have seen it a little above 9,000 feet.

Junco shufeldti. SHUFELDT'S JUNCO.— A number of black-headed Juncos taken near Crested Butte were identified by H. C. Oberholser of the Biological Survey as *shufeldti*. It occurs during the spring and autumn migrations, and at the latter season, at least, appears to be quite common. None of the Juncos seem to winter in the region.

Junco mearnsi. PINK-SIDED JUNCO.— Common in migration; arrives as early as September 24, and remains through October. A note of October 17, 1902, speaks of this as being the most abundant of the three species of Junco seen on the Irwin road. Ranges at least to nearly 11,000 feet.

Junco phænotus caniceps. GRAY-HEADED JUNCO.— Common summer resident and breeder; I have no records to indicate the date of the spring arrivals, except that it was seen at Hillside Ranch, April 20, 1901. It remains through October. June 8, 1915, I found a nest with 3 eggs in a tall tuft of dead grass on the south slope of Crested Butte Mountain; July 5, 1900, a nest with 4 newly hatched young was discovered under a bunch of grass beside an old timber road south of Coal Creek, 5 miles west of Crested Butte; July 11, 1902, young just able to fly seen on the "Smith Trail," west of Crested Butte.

Melospiza melodia montana. MOUNTAIN SONG SPARROW.— My records of this species for the region are decidedly scanty; it seems to be a summer resident, but is apparently rare. One was seen at Hillside Ranch, June 9, 1915. A Song Sparrow had a nest containing four eggs near a spring on the mesa west of Muddy Creek, at about 7,500 feet. One night a herd of cattle were about the spring and partly upset the nest; I straightened it up the next morning, and the bird went on incubating, but I do not know if she hatched the eggs.

Melospiza lincolni lincolni. LINCOLN'S SPARROW.— Summer resident and breeder; not uncommon. I have no definite records as to the vertical distribution of this species, my own being from 9,000 to 10,000 feet, nor have I any dates of arrival and departure.

Pipilo maculatus montanus. MOUNTAIN TOWHEE.— One seen on Anthracite Creek, near Layton's ranch, September, 1902; never seen in the Crested Butte region, which is too high.

Oreospiza chlorura. GREEN-TAILED TOWHEE.— Common summer resident and breeder, preferring the open ground and sage brush, going to nearly 10,000 feet at least. I have no records indicating the date of its arrival in spring, nor the lateness of its stay in autumn, except September 7, 1902. About Crested Butte this Towhee seems to prefer to place its nest in a sage brush, a foot or less above the ground. Nests with eggs found June 19, 1900; June 16, 1902; June 22, 1902; all near Crested Butte. These nests were all built of small twigs, lined with grass and horsehair. July 10, 1903, 3 young about ten days old were seen at Hillside Ranch. On Muddy Creek, June 15, 1903, I discovered 3 nests with eggs, and one with young on the 20th.